

NOvA Experiment Status

All Experimenter's Meeting

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Operations – Summary



☐ BEAM:

- Getting 240-260 kW and waiting for higher intensities.

☐ NearDet:

- Running well. Minimal down times (98.5% up).

☐ FarDet: running in high gain mode (150)

- Big DAQ downtime.
- Three problems found last (few) week(s).
- First the long-term bug in software confirmed as solved.
- Second is related to the Linux kernel security patches update.
- Third on occasional basis (~ 1 per a day) still need to be solved.

☐ Control Room(s): Currently used 6 remote control rooms, 2 other on the way for the certification. Vidyo tested.

Far detector – Data Logger



❑ Data Logger software bug - *solved*:

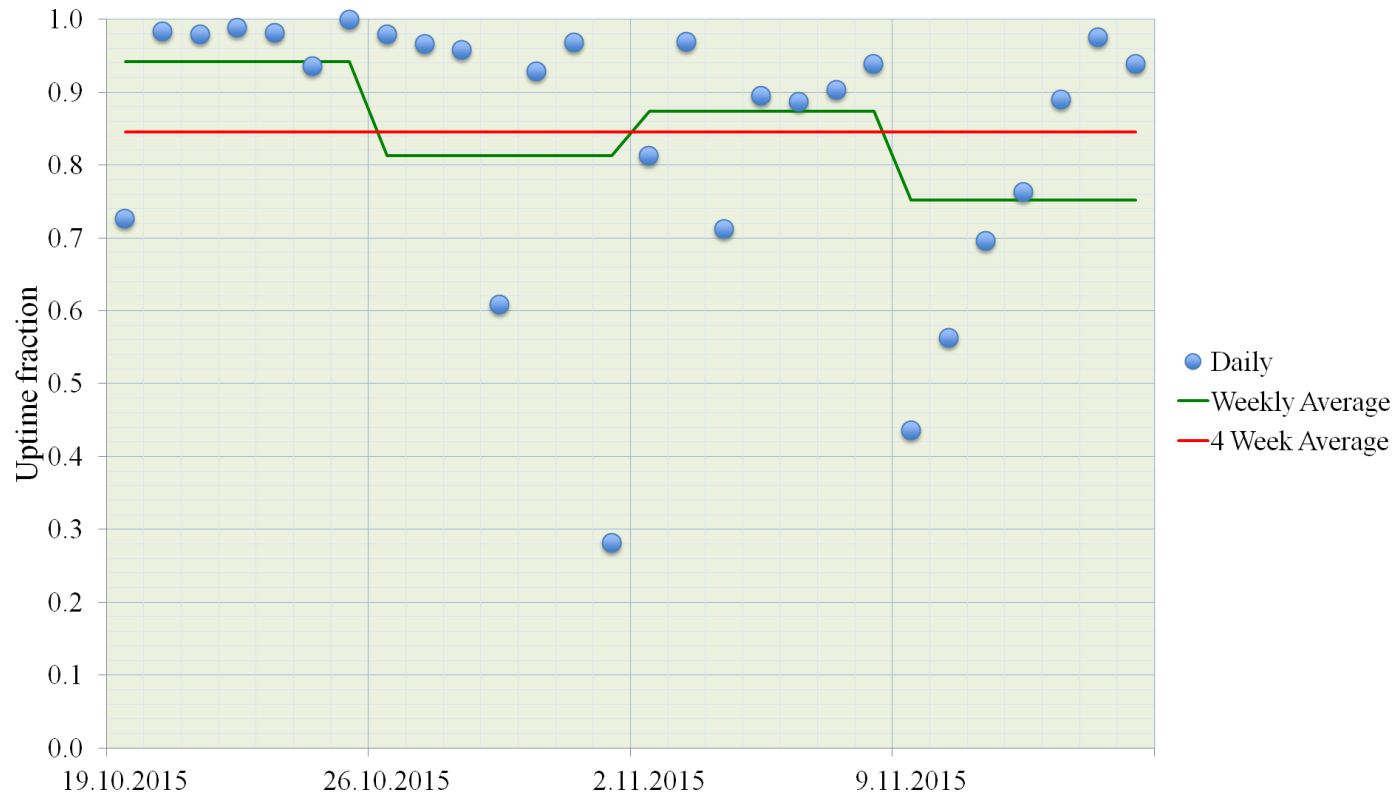
- Long term issue with the corrupt metafiles when the Data Logger incorrectly closed subruns.
- Good news we did **not lose** any data.
- It was confirmed it does not occur anymore.

❑ Interference between new kernel and disk driver updates with the DataLogger DDS communication – *Found, reverted to old kernel and driver, more under study, able running.*

- We had big difficulties even to start the DataLogger since the kernel update happened (Mon). Not clear since beginning, even many experts did not expect such behavior.
- Through Tue to Thu we did many tests with different configurations and found the new data disk computers would not communicate properly with the kernel driver update.

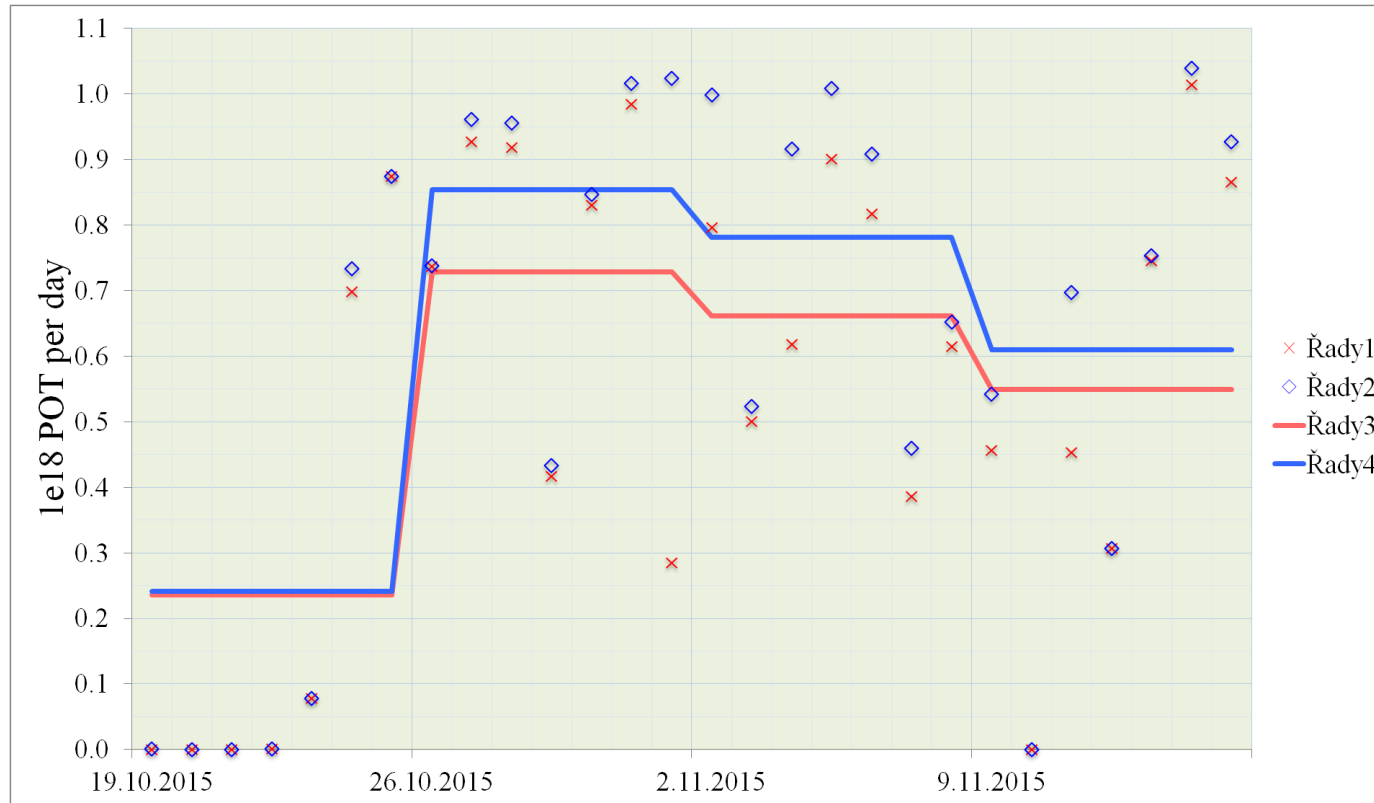
❑ DataLogger unresponsiveness when a new run is rolling over – *Occasionally but not rare, not solved.*

FD: Data taking Uptime



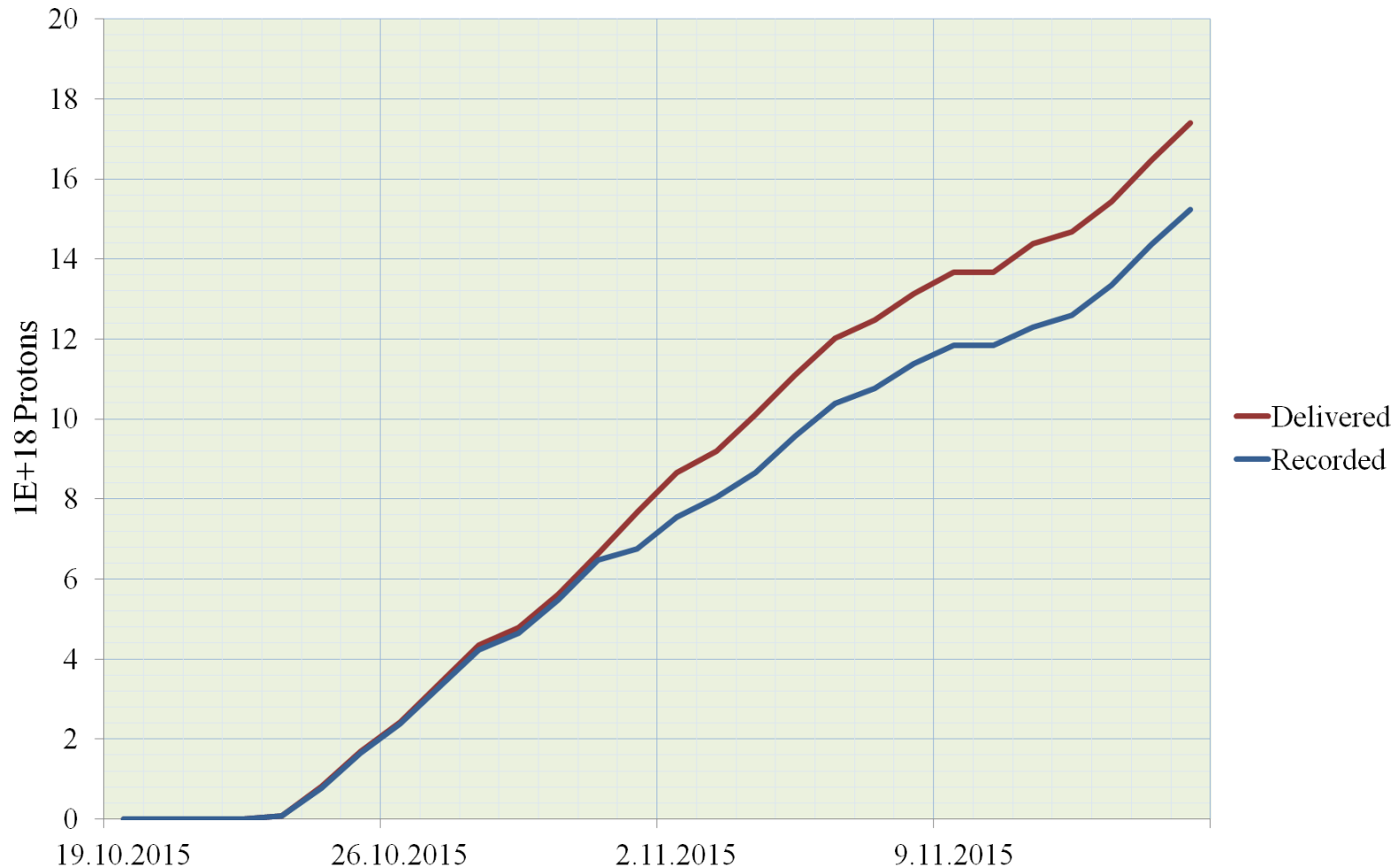
- We had big downtime through the last week - *only 75%*, in total of 40 hours down.
- Big portion of it when the beam was down too.
- 15 hours took on Mon the detector maintenance (10h) and kernel update with DAQ & DCS computers start-ups (5h).
- The DataLogger issues started just after the kernel update on Mon afternoon - 19 hours of downtime (partly due to the tests) until Thu old kernel data disk-04 running (Thu).

FD: POTs delivered/recorded



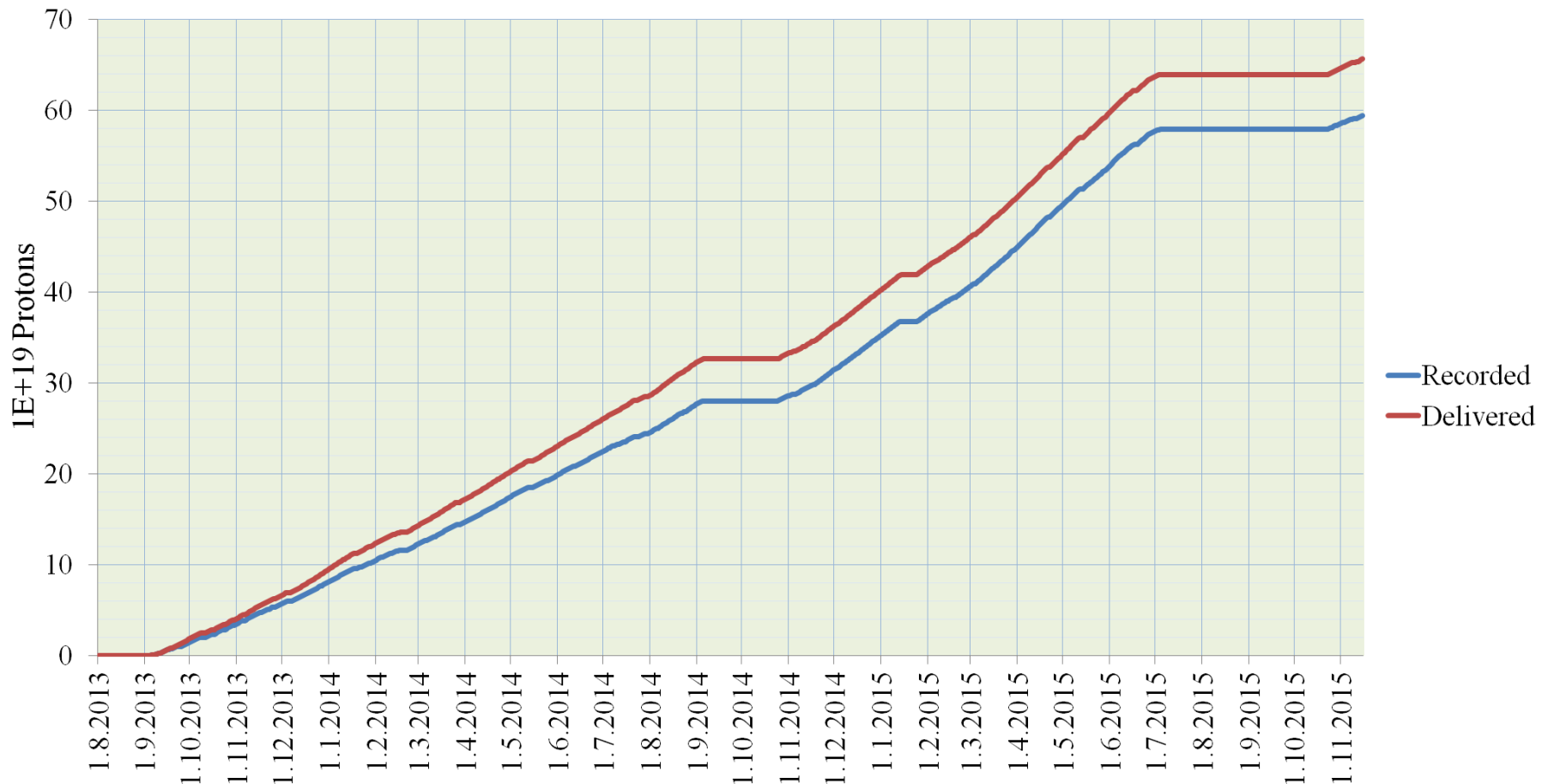
- Past week efficiency at only 90.1%, (3.84 of 4.27 e18 POTs), not so bad comparing to overall down time. Almost 3 days of beam shutdowns.
- The worst day (65% eff) was Wed when we switched after crashes and tests the data writing to the older data disk machines (different drivers).
- Still some Data Logger and other shorter DAQ crashes occurred.

FD: Accumulated POTs (4 weeks)



➤ 2015/16: 15.2/17.4 e18 POTs (87.8%), slightly better than the week before.

FD: Accumulated POTs – all years



➤ 2013/14: 280/326 e18 POTs (86%) + 2014/15: 298.5/312.5* e18 POTs (95.5%) [253days]

➤ 2015/16: 15.2/17.4 e18 POTs (88%)

**) Including 20.8e18 POTs horn-off data and 2.6e18 non-nominal horn current data.*